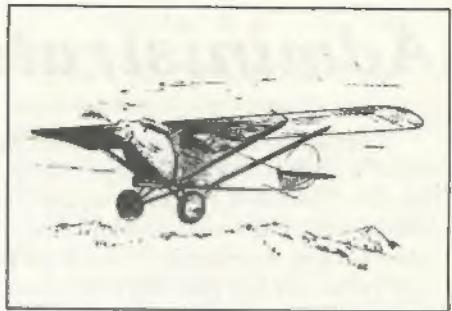


Montana and the Sky



Vol. 31, No. 6

MONTANA AERONAUTICS DIVISION

June, 1980

Warm-Weather Flying

In a release issued by the National Transportation Safety Board a seasonal reminder was given of the potential hazard in warm-weather, high-altitude flying.

High "density altitude" was cited by the Board as a cause or contributing factor in 36 of the 301 accidents contained in its issue of "briefs" of 1979 civil aviation accidents.

Airplane performance decreases as temperature increases. Higher altitudes further decrease performance. In hot weather, an aircraft at a given pressure altitude will actually perform as though it were much higher. This is the effect of "density altitude."

In one of the 36 accidents involving density altitude, a single-engine airplane on a pleasure flight last July in Colorado crashed just below the ridge of an 11,910-foot-high mountain pass. Both pilots and a lone passenger died in the crash and ensuing fire.

A hiker who witnessed the crash said the airplane flew up a canyon toward the pass at a very low altitude. He said the engine "appeared to be struggling," but there was no smoke or fire. The plane "made it to almost the top of the pass," then turned as if to reverse course just before it crashed.

There was no evidence of pre-

impact malfunction or failure. Temperature conditions caused a density altitude of about 14,000 feet—more than 2,000 feet higher than the actual elevation of the pass.

The Safety Board held that the accident was caused by the pilot's misjudging distance, speed and altitude, with flying into a blind canyon and high density altitude as contributing factors.

High density altitude can be an insidious hazard when a pilot forgets it, entirely or forgets that it does not take much warmth to seriously degrade the performance of an air-

plane which is taking off from an airport in high mountains, or traversing high terrain.

By noting altitude and temperatures, both at takeoff and at cruise altitude, the prudent pilot will calculate what his density altitude—and thus his aircraft performance—will be.

Density altitude at an airport with a weather station can be obtained from the weather observer. En route, it can be calculated with altimeter and outside air readings using a flight computer.

Let's have a safe summer of flying.



The Montana Aeronautics Division hosted over 45 children from Smith School the end of June for an airport tour and a ride in a plane.

**Don't Forget the Schafer Meadows Fly-In
— July 25 to 27 —**

Administrator's Column

During the May 14th and 15th Montana Aeronautics Board meeting, they made a decision to hold their July board meeting in conjunction with the Schafer Meadows Fly-In. I would like to remind and encourage all of you to attend this fly-in/work session. Once a year we gather to pick rock and perform other needed maintenance work on this recreational air strip. As most of you may recall for the past several years the "conservationists" did everything in their power to close this strip. Even though Schafer Meadows was encompassed within the Great Bear Wilderness it was through the diligent efforts of aviation-concerned people throughout the state that we were able to keep it open. Let's all do our best to attend this fly-in and support keeping this beautiful mountain airstrip open.

★ ★ ★ ★

I attended the Flying Farmers Fly-In at the Langhus Ranch on June 1. The main topic of discussion during the meeting was the Flying Farmers fall convention which will be held in on October 3 to 5 in Helena. The weather was beautiful, the turn out was good and an excellent potluck dinner was served. The Langhus Ranch, located on the east slope of the Crazy Mountains, provided a picturesque setting for the potluck picnic. See photos on page 6.

★ ★ ★ ★

Accidents do happen. Most often search and rescue attempts are successful, especially if you have an ELT on board. However, for your \$1.00 registration fee you can have access to the best in-flight life insurance possible—they're called WEATHER BRIEFINGS and FLIGHT PLANS. By registering with our office (a mere \$1) you are entitled to place collect credit card calls to the nearest flight service station to file and close your flight plans and to receive weather briefings. I would urge you all to take advantage of this service offered by the Montana Aeronautics Division - please remember to close your flight plans once you've landed. If you're not registered, contact our office.

★ ★ ★ ★

The Aeronautics Division is sponsoring six college aerospace teacher workshops this summer. Most of the workshops will be conducted during the month of June and will be held at Montana State University, Eastern Montana College, Carroll College, Montana Tech, Northern Montana College and at Great Falls. These workshops are offered to elementary and secondary educators and our primary goal is to achieve more aviation and space education programs in the schools throughout the state. The enrollment thus far has been outstanding. Almost every workshop has reached its maximum capacity. We will have representatives from NASA, the United States Air Force, the Civil Air Patrol, the National Association of Aerospace Educators, in addition to the respective workshop directors making presentations.

★ ★ ★ ★

The Mountain Search Pilot Clinic, which we conducted for the first time last year was felt to be a huge success. We again plan to host the clinic at the Kalispell City Airport in September and will offer ground school and dual flight instruction on the techniques of flying search missions in the mountains. Although the dual flight instruction will be limited to a maximum number of volunteer search pilots, anyone interested is invited to attend the ground school sessions. If you are a registered Montana pilot and have volunteered as a mountain search pilot, you will be contacted later on in the summer with details.



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Creative Press

Airport "NOTAMs"



By: **Dave Kneedler**,
Chief, Airport/Airways Bureau

With the construction season upon us checking the condition of your destination airport may save some time and even assure that you will have a place to land once you arrive. Following are airports for which major improvements are planned this summer and which may therefore be closed from time-to-time as work progresses.

West Yellowstone - seal coat runway, taxiways and apron, extend paved general aviation parking, install stand-by power unit.

White Sulphur Springs - reconstruct main runway, taxiway and apron, install medium intensity runway lights.

Scobey - extend and re-surface runway, re-surface taxiways and apron, construct partial parallel taxiway.

Plentywood - extend and re-surface main runway, re-surface ramp area and taxiway.

Hamilton - re-construct main runway, add partial parallel taxiway and medium intensity lights.

Stevensville - construct new runway on new alignment, provide taxiway and apron.

Laurel - re-construct main runway, expand and rehabilitate ramp and taxiway system.

Circle - extend, widen and re-

surface main runway, install medium intensity runway lights and VASI.

These are all projects which will likely close the facility for a brief period at some time during construction. Many other airport improvements will take place in Montana this summer which will result in partial closure or no disruption at all. Some of these include: a new terminal building/storage facility at Wolf Point International; increased underground fuel shortage at Dillon; re-surfacing of 2/20 at Lewistown; completion of the new general aviation runway 15/33 in Butte; surface treatment on runway 8/26 at Helena, completion of work on runway 16/34 at Great Falls; terminal apron and taxiway work at Glacier Park International, Kalispell; seal coat runways and taxiways at Miles City; new fuel facility and apron area at Glasgow International; rehabilitate lighting system at Sidney.

As you can see from the foregoing, Montana continues among the leaders in aviation and airport improvement activities. The communities mentioned are to be congratulated for their dedication to a healthy aviation system and interest in maintaining their airports in a safe, efficient condition.

FAA Modernizing FSS

Federal Aviation Administrator Langhorne Bond has proposed a new plan for modernizing the agency's nationwide network of flight service stations to provide a higher level of service and safety for pilots.

The revised plan calls for automating 61 flight service stations and locating them at airports that are major centers of general aviation activity. New buildings are to house the automated facilities because most existing flight service station buildings cannot be adapted to accommodate automated equipment

and consolidation of discontinued stations.

Bond's plan would consolidate 292 existing flight service stations into 61 automated facilities. The plan would be implemented only after it has been proved that the new facilities can provide equal or better service than the old ones.

Bond estimates the cost of implementing the program, including consolidation, to run about \$495 million spread over the next eight fiscal years. However, he said, "\$1.5 billion can be saved through 1995 by replacing the current labor-intensive system with a fully automated one." With a fully automated system, the FAA estimates the current number of specialists can handle the 1995 demand for service at less than half the cost if they did not automate.

Earlier this year, the agency awarded competitive contracts totalling \$12.8 million to three companies to design computer systems for the new automated flight service station network. After a year, the FAA will evaluate the competing designs and select one contractor to produce a series of interconnected computers.



Rory Swan was recently hired by the Division as a contract employee. Rory will be working on state-owned airports during the summer and performing various duties for the Division.

Montana Aeronautics Board Meets in Great Falls



The Montana Aeronautics Board met in the conference room of the administrative facilities of the Great Falls Airport on May 14th and 15th.



Homer Holeman provided an interesting tour of the U.S. Immigration Service Primary Inspection facilities at the Great Falls Airport.



Included in the meeting was an inspection of the Holeman Aviation equipment used on the airport.



The Board during their tour of the Great Falls Flight Service Station Facilities. Left to right, Paula Lindsey (seated), Herb Sammons, Richard O'Brien, Bill Utter (Great Falls Airport Manager), John Williams (Chief of the Great Falls FSS), Charles Marshall, Merle Thorstad, Homer Holeman (Holeman Aviation), and Bruce Vanica.



Charlie Marshall, Board member from Lewistown, sat in the cockpit of a Northwest Airlines DC-10 during the airport tour.

CONGRATULATIONS!

FAA Certificates Issued Recently to Pilots

PRIVATE

Darwin T. Scott, Billings
Jonathan E. Coxwell, Billings (Add Instrument)
John P. March, Billings
Donald W. Molloy, Billings
Leo C. Dutton, Sand Springs
Gerald F. Bullinger, Billings
Lanny L. Hanson, Glasgow
Mark K. Durand, Billings
Morgan E. Michel, Jordan
Don L. Haney, Sidney
Connie D. Pelican, Billings
Gary R. Levine, Billings
Donald H. Glenn, Red Lodge
Michael W. Sasich, Billings
Dan K. Klein, Billings
Gordan A. Clark, Acton
Timothy G. Pfahler, Big Timber
Kelly L. Braswell, Laurel
Douglas A. Daercher, Havre
Marlon B. Sundh, Kalispell
Edward J. Roatch, White Sulphur Springs

John E. Huggans, Conner
Paul L. Owens, Missoula
John M. Duty, Malta
Thomas R. Tate, Belgrade
Mark L. Ehrismann, Dillon
Carrol D. Waters, Malta
Britt J. Hougen, Bozeman
John N. Rosenbaum, Bozeman
Richard H. Martinson, Hamilton
Richard L. Neville, Darby
Michael D. Kirn, Poplar
Scott R. Lane, Helena

COMMERCIAL

Sage H. Olson, Billings (Add ME)
William E. Rahn, Livingston (Add ME)
John E. Stanek, Billings (Add ME)
Gregory S. Ugrin, Miles City (Add Instrument)
Herbert R. Hawk, Billings (Instrument)
Theodore J. Weins, Glasgow
Arne R. Scarpholt, Glendive (Add ME)
Sidney G. Brandon, Billings (Add ME)
David E. Ladd, Helena (Instr & Glider Aero Tow)
Greg W. Rogerson, Whitefish (Instr)
Dan J. Simpson, Lewistown
Joseph F. Busby, Columbia Falls (Rtrcrft)
Steven P. Garman, Great Falls
James R. Johnson, Great Falls (Instr, PAMEL, Rtrcrft)
Frank R. McDowell III, Cardwell (MEL, Instr)

INSTRUCTOR

Roger A. Shinkle, Hartley
Rocky D. Tolman, Billings

Carter E. Jensen, Hinsdale (Add Instrument)
Thomas E. Herrod, Billings (Reinst)

Dave W. Schuler, Dutton
John A. Landerdahl, Bozeman
Wayne C. Turner, Big Sandy (Renew)
Norman M. Sonju, Shelby (Renew)
Connie L. Warm, Havre
Robert D. Vandyken, Manhattan
Timothy W. Dyk, Belgrade

ATP

Michael J. Morrison, Helena
Joseph D. Sigl, Great Falls
Will C. Willbanks, Great Falls (Renew)
Donald Anderson, Billings

Navigation Aids



By: Gerald Burrows
Aviation Representative

Visitations have been made to several Montana communities lately, primarily for H-Marker improvements, unicom installations and airport board meetings.

A brief resume of these visits is listed as well as pending travels.

During my travels, I am often asked for information, windsocks or beacon bulbs, a new unicom or for other services that I could provide if I had known beforehand.

If you have any questions that would require a site or equipment investigation, please let us know as far in advance as possible. Many of our programs take us around the state and we would be happy to pay you a visit when passing through your area.

Ted Mathis' spring airport maintenance article last month covered many areas that we can be of help - at least with replacement parts. Several of us jointly keep our airway beacons operating and may be able to assist with your beacon.

Here are locations traveled to during the last several weeks:

Havre — new unicom antenna installed, met with NDB technician and checked the NDB monitor.

Malta — met with airport board. Instrument approach planned for NDB.

Scobey — new unicom now in service, 122.8 MHz, located with Trower Aviation on the airport. Also made NDB improvements.

Glasgow — met with NDB technician regarding Scobey, Wolf Point, Malta and Glasgow NDB's.

Jordan — checked NDB and unicom.

Butte — replaced defective unicom.

Gardiner — relocated unicom to new site - 122.8 MHz.

Choteau — met with airport board. Instrument Approach Procedure (IAP) for CHX is underway. Worked on NDB.

Conrad — inspected NDB facility - programmed improvements this summer.

Billings — met with FAA airport facilities sector manager, Logan Field maintenance supervisor and picked up surplus property.

Shelby — a new 50 watt solid state transmitter is programmed to replace the present 25W tube type. Shelby has IAP paperwork in progress. Antenna improvements planned.

Fort Benton — replaced defective unicom.

Red Lodge — Complete new antenna and refurbished counter poise system. Major improvements. New antenna coupler on order. New system should be operational in near future.

Future travels (not included above):

Libby — install new unicom, survey and install new NDB (H-marker). Hopefully to be operational by fall. The new unicom will be installed in June.

Broadus — refurbish antenna and counter poise systems for NDB.

Baker — install lightening rods on NDB poles.

Miscellaneous — minor NDB improvements planned for Circle, Eureka, Jordan, Polson, and Wolf Point.

Langhus Flying Farmers Fly-In



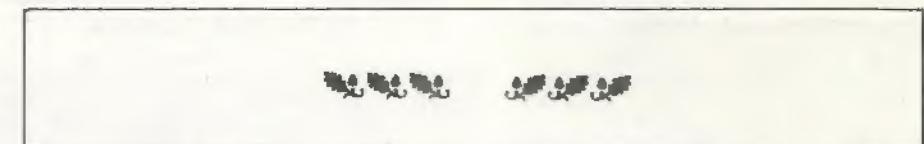
A total of 10 planes arrived on the scene for the Flying Farmers Fly-In.



Host and hostess of the Fly-In, Sam and Dorothy Langhus.



Chow Line!



Filled up! There was plenty to eat at the Langhus Fly-In.



Officers and Directors met during the Langhus Flying Farmers Fly-In to conduct business on June 1.

Volcanic Ash Hazard!

By: Mike Ferguson

We have compiled information regarding recommended actions associated with aircraft contaminated with volcanic ash fallout from Mt. St. Helens in Washington. This ash has been analyzed to contain abrasive and corrosive materials. Most aircraft filters will prevent passage of material down to 15 microns, however, some of the ash fallout ranges as low as .5 microns.

If your aircraft has been exposed to ash fallout it is recommended that —

I. For Reciprocating Engines:

- (1) the engine be externally cleaned,
- (2) the oil filter be changed,
- (3) the oil screens be cleaned,
- (4) the air filters be cleaned,
- (5) for carburetor engines, thoroughly wash out the carburetor heat inlets, air ducts, exhaust heat exchanger chambers and the carb air box,
- (6) for fuel injected engines, thoroughly wash out the main and alternate air inlet ducts, valves, and chambers.
- (7) wash out ram air cooling ducts and cabin exhaust heat exchanger chambers,

II. For all Pratt and Whitney PT6A engine powered aircraft:

- (1) For non-running engines with settled dust collected on exposed areas, perform external water wash and motoring deluge wash.
- (2) For engines having flown through airborne volcanic dust or sulfurous smelling atmosphere for more than a few minutes, perform a motoring deluge wash as soon as possible.
- (3) For engines having flown through volcanic ash which affects visibility or physically felt in cockpit, the engine oil should be drained and perform a motoring deluge wash. Check drained oil for presence of gritty particles and if found the oil filter element is to be changed.

III. For Airframe Cleaning:

- (1) clean the fuel screen,
- (2) change the instrument air

pump filters (vacuum or pressure),

- (3) change the engine oil,
- (4) drain the fuel sumps,
- (5) air blow dust from aircraft surfaces (do not wipe dust off as this will cause scratching).
- (6) inspect static air ports, pitot tubes, cabin inlet air vents and clean as necessary by reverse blowing with compressed air,
- (7) spray wash aircraft exterior, including landing gear struts and actuators, with soap and water, (do not hand scrub until you are assured that all ash has first been removed),
- (8) thoroughly rinse with generous amounts of clean water,
- (9) vacuum the interior.

Calendar

June 9 to 18 - Aerospace Teacher Workshop, Eastern Montana College, Billings.

June 9 to 18 - Aerospace Teacher Workshop, Montana State University, Bozeman.

June 11 to July 2 - Aerospace Teacher Workshop, Montana Tech, Butte.

June 13 & 14 - Montana Pilot's Association Convention, Billings.

June 16 to 27 - Aerospace Teacher Workshop, Northern Montana College, Havre.

June 29 - Flying Farmers Queen Joan Willson Fly-In, Moore.

July 13 - Terry Airport Fly-In and Dedication.

July 19 & 20 - 3rd Annual Beacon Star Antique Airfield Fly-In.

July 25, 26, & 27 - Schafer Meadows Fly-In.

August 3 to 8 - International Flying Farmers 35th Annual Convention, San Diego.

August 6 to 10 - Lawyer-Pilots Bar Association, semi-annual meeting, Harrison Hot Springs, B.C., Canada. Contact David Prewitt (215) 546-5366 for details.

Sept. 26 & 27 - North Dakota Flying Farmers Convention, Art Claire Motel, Devils Lake.

Oct. 3 to 5 - Montana Flying Farmers Convention, Colonial Inn, Helena.

Oct. 4 - Helloween Air Race.

Weather Info

By: Robert T. Sims
Weather Service Evaluations Officer

The National Weather Service, in cooperation with the State of Montana, has established a network of nine radio broadcast stations across the state. These radio stations are located in National Weather Service Offices and provide continuous weather information, usually 24 hours a day. The length of each broadcast ranges from 3 to 5 minutes. The weather radio broadcasts are made on one of two high-band FM frequencies, 162.40 or 162.55 megahertz.

Cities having weather radio broadcasts are Kalispell, Missoula, Helena, Butte, Great Falls, Havre (Havre is the only Montana station not operating 24 hours per day, being open from 0530 to 2100), Glasgow, Miles City and Billings. The radio transmitters are designed to reach out about 40 miles. The transmitters at Helena, Butte, Kalispell and Missoula are located on top of high mountain peaks and are able to be received at a much greater distance.

Each Weather Office tailors the broadcast weather information to the needs of the listening area. This usually includes a weather summary or synopsis, current weather conditions at the stations, hourly weather roundup from around Montana and adjoining states, local, area, and 5-day forecasts and, of course, any weather warnings which are in effect or are forecast.

Most of the new radio receivers come equipped with the special weather band for receiving weather radio broadcasts. However, inexpensive receivers can be purchased from commercial electronic outlets.

Although the National Oceanic and Atmospheric Administration is not strictly tailored for the flying community, it does lend itself to general application by pilots such as long range and preflight planning.

The nice feature of NOAA Weather Radio, providing you are able to receive it, is that one can have the latest weather information with your morning coffee or just before you retire, just by turning a knob.



Teresa Carson was recently hired by the Division as a contract employee. Teresa will be performing clerical duties for the Division.

Terry Fly-In and Airport Dedication

**By: Jerry Burrows
Aviation Representative**

Flour bombing contests, parachutists, radio controlled model aircraft, pilot skill contests and a short dedication ceremony are part of the events to be held in Terry on July 13, 1980.

Trophies will be awarded to contest winners, pilots traveling the farthest,

etc. Breakfast will be served from 7:00 a.m. to 10:00 a.m. with coffee and soft drinks available later. A temporary unicom will be operating at 122.8 MHz.

The Aeronautics Division will have a new type windsock set up in addition to Terry's regular one. We would like to get your comments as to its visibility, etc.

Further information can be obtained from Mr. Spiller, 637-5380, in Terry.

2,500 copies of this public document were published at an estimated cost of \$.18 per copy, for a total cost of \$447.17, which included \$230.00 for printing and \$217.17 for distribution.

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PURPOSE— "To foster aviation, as an industry, as a mode of transportation for persons and property and as an arm of the national defense; to join with the Federal Government and other groups in research, development, and advancement of aviation; to develop uniform laws and regulations; and to otherwise encourage cooperation and mutual aid among the several states."



June, 1980

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